

Role of the Pharmacist in Antimicrobial Stewardship



Diane M. Parente, PharmD^{a,*}, Jacob Morton, PharmD, MBA, BCPS^b

KEYWORDS

- Pharmacist • Pharmacy • Antimicrobial stewardship
- Prospective audit with intervention and feedback • Outpatient • Long-term care
- Hospital

KEY POINTS

- Improving patient outcomes and minimizing consequences of antibiotic use should be the primary goal of antimicrobial stewardship.
- Pharmacists are core members of the antimicrobial stewardship team and assist in appropriate antimicrobial utilization, including but not limited to, prospective audit with intervention and feedback, education, development and tracking of metrics, rapid diagnostic testing, and the establishment of policies and protocols related to antimicrobials and infectious diseases.
- As part of prospective audit with intervention and feedback, pharmacists should look for patients who may benefit from infectious disease consultation, which has been shown to reduce mortality in a wide variety of infectious diseases.
- The role of a pharmacist has expanded and is vital in achieving the goals of antimicrobial stewardship programs throughout the continuum of care, including inpatient, outpatient, and long-term care sectors.
- Pharmacists are well positioned to serve as champions for ensuring regulatory requirements are met for antimicrobial stewardship, given the frequent multidisciplinary collaboration required on a daily basis.

INTRODUCTION

Stewardship, as a general concept, is defined as the “careful and responsible management of something entrusted to one’s care.”¹ When applied to antimicrobials, which include antibiotics, antivirals, and antifungals, health care professionals are tasked with using these agents responsibly and finding the balance between optimal effectiveness and development of resistance and toxicity. Along with infectious

Disclosure Statement: The authors have nothing to disclose.

^a Infectious Diseases and Antimicrobial Stewardship, Department of Pharmacy, The Miriam Hospital, 164 Summit Avenue, Providence, RI 02906, USA; ^b Infectious Diseases, Department of Pharmacy, Saint Vincent Hospital, 123 Summer Street, Worcester, MA 01608, USA

* Corresponding author.

E-mail address: dgomes5@lifespan.org

Med Clin N Am 102 (2018) 929–936

<https://doi.org/10.1016/j.mcna.2018.05.009>

0025-7125/18/© 2018 Elsevier Inc. All rights reserved.

medical.theclinics.com

diseases (ID) physicians, pharmacists are core members of the antimicrobial stewardship (AMS) team and are champions for appropriate antimicrobial use.² Antimicrobial stewardship strategies used by pharmacists vary according to available resources and level of care, but may include antibiotic intravenous to oral conversions, prospective audit with intervention and feedback, pharmacokinetic and pharmacodynamic dose optimization, implementation of rapid diagnostic testing, and antibiotic preauthorization.² Additionally, pharmacists are the ideal health care professionals to develop protocols and procedures designed to improve antimicrobial use, given their frequent multidisciplinary interactions and committee involvement. Pharmacists also serve in a wide variety of settings, including the inpatient, ambulatory, and long-term care settings. As antimicrobials are prescribed in all of these settings, pharmacists have the opportunity to optimize these regimens as the medication expert on the patient care team. This article discusses in detail the role of the pharmacist as the medication expert in AMS activities in the inpatient and long-term care settings with a focus on clinical interventions and meeting regulatory standards for AMS.

ACCOMPLISHING ANTIMICROBIAL STEWARDSHIP ENDPOINTS

The overarching endpoints of AMS may be divided into primary and secondary goals. Optimization of patient outcomes, preventing antimicrobial resistance, and minimizing adverse events from antimicrobials may be considered primary goals of stewardship as they are directed toward the improvement of the patient and society. Focusing solely on costs may lead to use of suboptimal or more toxic antimicrobials that may increase length of hospitalization and the risk of adverse events and decrease resolution of infection. Pharmacists may accomplish both primary and secondary outcomes by reviewing antimicrobial regimens on a regular basis.² Four primary areas of focus during the review include the diagnosis, drug, dose, and duration. Through optimized antimicrobial regimens, shorter durations, and avoidance of antimicrobials when they are not needed, patient outcomes may be improved and cost savings may be achieved.²

PROSPECTIVE AUDIT WITH INTERVENTION AND FEEDBACK

The Infectious Diseases Society of America, Society for Healthcare Epidemiology of America, and the Centers for Disease Control and Prevention (CDC) have identified prospective audit with intervention and feedback (PAIF) as a core strategy of AMS programs (ASPs).² The goal of PAIF is aimed at improving antibiotic use while minimizing unintended consequences (eg, adverse effects, bacterial resistance, *Clostridium difficile* infection) in real time. This core strategy involves a review of patients on antimicrobial therapy to assess for appropriateness with regard to indication, drug selection, dose, route, and duration. Signs and symptoms of infection should be consistent with the indicated diagnosis. The antimicrobial selected should target the most likely bacteria, fungi, or viruses implicated in the diagnosis, and also should be dosed according to pharmacokinetic and pharmacodynamics parameters. Last, review of duration is essential, as many infections may be treated with shorter durations based on multiple studies that have identified no difference in patient outcomes when compared with longer courses of treatment.³

Once the patient has been thoroughly assessed, suggested changes to antimicrobial regimens and feedback are then relayed to the treating provider via a notification placed in the patient's medical record or direct verbal communication. Audits with intervention and feedback are typically completed by a clinical pharmacist, preferably with formal ID or AMS training. Although the structure of PAIF can vary depending on

Download English Version:

<https://daneshyari.com/en/article/8945121>

Download Persian Version:

<https://daneshyari.com/article/8945121>

[Daneshyari.com](https://daneshyari.com)